which is that your value as a scientist is now being determined by the name of the journals you publish in. Not the contents of the paper, quality of the research or thought, or even the amount of influence the work ends up having, just the impact factor. The electronic revolution could enable scientists to be freer in the form they publish in and the way they discuss their work. You would think this would lead to a broadening of the way scientific results were communicated, discussed and evaluated. Instead, the ever-expanding amount of literature seems to make the legitimacy of the big journals more important than ever. Very sad, really. Give people all the freedom in the world and they use it to build a better straightjacket.

And the biggest future challenges to the scientific community? This leads on from the previous question. Publishing has become far too political. Any graduate student now knows that big names get better papers than little fish, and that the best journals accept some papers because they're fashionable, rather than great advances. That tends to make people cynical. Politics and cynicism are extremely unhealthy in a field like science, which really ought to be concentrating on understanding the truth. If the people who fund science thought they were funding a rat-race, not progress, they'd pull their money out in a moment. Science fraud is the same — even if it's not truly prevalent, the perception that it's happening is disastrous.

So I would say the biggest challenges will be, firstly, to make sure that scientists are judged by the quality of their science, probably by finding something broader than impact factors as a measure. Secondly, we need to make sure the public perception of science is honest and positive. The two probably go hand in hand.

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Nervous systems

Science and art mostly occupy different areas of human activity; science does not much inspire artistic works. But a new sculpture by the young British artist, Conran Shawcross, called the Nervous Systems, reveals a deep biological input into a remarkable and engaging construct.

The sculpture is essentially a primitive machine made entirely of wood and powered by small motors. It functions a bit like a loom with a spinning jenny, weaving individual strands of thread into a thick, multicoloured rope that, as each length is completed, lies coiled on the gallery floor. In spite of the title, the work takes the form of two giant double helices. Mounted on each helix are four bobbins. Each bobbin, in turn, holds eight cylindrical spools of coloured thread. Each bobbin slowly rotates in a way that, as the thread from each spool unwinds, it is drawn upwards towards the ceiling.

Although creaky, crotchety, it works perfectly, but so slowly that it is easy for the eye to watch each step of the process. It is the antithesis of what most people imagine of manufacturing machines: noisy, fast and big. This machine is small, quiet and slow and the more engaging for that contrast.

It evokes the double helix of DNA but in a dynamic way that also provides a metaphor for biochemistry's mostly silent, but incessant, business. It is a remarkable work of a young British artist who clearly likes building things but relates them to deeper biological concepts.

Finally, in the grand climax, the ropes from both helices converge and ravel into one mega-rope combining all the individual 128 coloured threads.

Such an engaging, biology-inspired theme, is a welcome addition to the art world. The Wellcome Trust is one body committed to supporting and commissioning artists inspired by themes from biological science and medicine and displaying works at its headquarters in London. But that a young artist should win space for such a sculpture in a commercial gallery in London is an especially impressive achievement.

Conrad Shawcross's show was at the Entwistle Gallery, Cork Street, London W1.

In a spin: The Nervous Systems: a sculpture by British artist Conran Shawcross installed at the Entwistle Gallery, London W1. (Photo courtesy of the Entwistle Gallery.)